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ABSTRACT

Because young children disregard writing on the spine of a book, researchers chose to run a test on color preferences in books. In a library situation young children see most books from a spine-out angle; thus when allowed to select a book by themselves, the first characteristics noticed are size and color. This study is based on the hypothesis that children transfer their preference for a favorite color to book color preference, if the quality of color is emphasized. Children also relate colors to moods. The two colors that were preferred by at least half of the 41 children tested were red and purple. With all the color choices totalled, the preference order was purple, blue, red, orange, brown, green, black, and yellow. The findings indicate that sex does make a difference in determining color preference. There was not enough consistency between favorite color and book color preference to justify a strong connection between the two. (Author/MM)



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M. E. Lamson

CHILDREN'S BOOK COLOR PREFERENCES
AS RELATED TO THEIR FAVORITE COLOR

A Research Project

Submitted to The

Graduate Department of Library and Information Sciences

Brigham Young University

Provo. Utah

In Partial Fulfillment
of the Requirements of the
Master of Library Science Degree

Jili L. Lecke
17 May 1971

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J. L. ...



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INTRODUCTION

The field of publishing books for children was really begun by John Newbery and his A Little Pretty Pocket-book¹ in the eighteenth century. Since then, the publishing of children's books has grown into quite a lucrative business. Publishers are very aware that children's tradebooks sell better than adult tradebooks, and therefore each year thousands of children's books are made available to the public.

Adults write the books; adults illustrate the books; adults publish the books; adults sell the books; adults read the books; adults like or dislike the books; adults make the books available to the public. At the end of this long chain, the children on picture. What are young children see in the books? How do they judge the books?

Too many adults in their strivings for exceller efforget the visual, child-like manner of viewing object.

The prescheder has not yet mastered the symbols of our language; he cannot yet gain meaning from the printed rage.

What he understands is the visual, the size, calars



Children's Literature (New York: Macmillan, 1954), p. 4.

and pictures of objects.² As the child looks at the spice of a book on the library shelf, he does not gain any insight into the book's subject from the title; all he sees is the color or the size of the book. It is when he pulls the book off the shelf and sees the pictures that he gets an idea of the subject matter of the book. It is because young children disregard writing on the spine of a book that the researcher chose to run a test on color preference in books. In a library situation, young children see most books from a spine-out angle; thus when allowed to select a book by themselves, the first characteristics noticed are size and color.

This study will be based on the hypothesis that children will transfer their preference for a favorite color to book color preference, if the quality of color is emphasize a

The idea of book color and book covers entered the mind of the researcher watching a younger sister in the library. Books were selected off the shelves that looked and sounded good to the adults in the family, but as the book was shown to the sister she would shake her head and say, "No." Finally when asked why she did not want the books. she said, "Because they didn't look good." Children also relate colors to moods. This idea of "looking good" could relate to various areas. It has been found that children who wanted the feeling of sunshine preferred the color yellow.



ZArneld Gesell, Frances L. Ilg, and Glenna E. Bullis, Vision Its Development in Infant and Child (New York: Hafner Publishing, 1949), p. 126.

and that children deprived of outdoor landscaping and shrubbery favored green. When some nursery school children were divided into two groups, with half of them hearing a happy and half a sad story, it affected their coloring afterwards. When given a yellow and a brown crayen and asked to color a girl's dress, these who heard the sad story tended to color the girl's dress brown, whereas those who heard the happy story compred the girl's dress yellow. These ideas brought to mind the qualities a young child would notice in a book—the non-readable qualities. Having talked with several librarians, they seemed to agree that the bright colors, especially the primary colors, were well-liked in library books. This was how the idea of book color preference began to interest the researcher.

Preschoolers were tested on book color preference as related to their favorite colors, to see if there was any connection between the two. No research on this topic was found to have been done previously. Two classes, consisting of forty-one children were chosen at the Brigham Young University nursery school as the subjects to test. Preschoolers were used because it was considered necessary by the researcher to test non-readers or readers of very limited abilities.



³Louis Cheskin, Colors, What They Can Do For You (New York: Liveright, 1947), p. 71.

Carel O. Lawler and Edward E. Lawler III, "Color-Mood Associations in Young Children," Journal of Genetic Psychology, CVII (September, 1965), 29-32.

CHAPTER I

PREVIOUS STUDIES

Very little of a scientific nature has boon done concerning any phase of color preference in regard to books and children. The studies which have been made concerning children and color involve the fields of education and, most frequently, psychology. It is hoped that these results will be added to other studies that will be made of children and color studies in the area of books so that a body of knowledge will become available on this subject.

Because of the technical nature of these studies, each study will be briefly summarized. The only test made concerning the library and children's preferences of books and color was done in 1922 by Florence Eileen Bamberger for her thesis at Johns Hopkins University. Her study was done to test the effect of the physical make-up of books upon children's choices. In the study, Miss Bamberger found that in choosing books by color, young children chose bright, saturated colors, and as the children grew older they chose softer tints of color. The favorite colors were blue first, with red and yellow alternating between the second and third places. She concluded also that children



preferred books seven and one half inches high, five inches wide and one inch thick.⁵

Olive M. Riker, a child psychologist, tested elementary school children on color preference. She conducted her study using color charts and obtained the following results: the children liked bright, saturated colors in first red, and then blue. She asserted that color preference changed with maturity in growing favor of blue and green. 6

A study by Suchman and Trabasse, psychological researchers, found evidence of a preference hierarchy in children between color and form. They determined that children preferred color to form.

Garth and Porter, of the University of Denver, tested 1,032 yeung children and concluded the following:

(1) the feeling for color increased with age, (2) color preference was more precise among boys than among girls,

(3) the children preferred the color red the most and yellow



⁵Florence E. Bamberger, "The Effect of the Physical Make-Up of a Book Upon Children's Choices" (Baltimore: Johns Hopkins Press, 1922), as found in Bonnie E. Mellinger, Children's Interests in Pictures (New York: Teacher's College, Columbia University, 1932), p. 9.

⁶⁰live M. Riker, "Color Preferences of Elementary School Children" (unpublished Master's Thesis, University of Wiscensin, 1925), as found in Bonnie E. Mellinger, Children's Interests in Pictures (New York: Teacher's College, Columbia University, 1952), p. 10.

⁷Rosslyn G. Suchman and Thomas Trabasse, "Color and Form Preference in Young Children," <u>Journal of Experimental Child Psychology</u>, III (May, 1966), 177-87.

the least, and (4) the color blue was esteemed more as age increased. 8

When Gale, of the University of Chicago, tested children from the third to eighth grades, he found that their preferences were for the following colors in order of preference: orange, red, violet, and blue.

children of ages three, four and five. This test was done for her thesis at Columbia University. The children were asked to choose from ten colors mounted on cardboard and the results of their favorite colors showed orange as the favorite of all the ages, with bink and blue following in that order. 10

Ruth Staples, a psychologist, studied forty-four celer tests run on people of various groups: infants, preschoolers, school children and racial groups. In summarizing her findings of the studies, the following conclusions were drawn: (1) infants at the age of several months began to recognize colors on the red end of the spectrum, so that when they were tested they responded to reds and yellows, (2) as children became preschoolers and

¹⁰ Gertrude H. Hildreth, "Color and Picture Choices of Young Children," Journal of Genetic Psychology, XLIX (1936), 427-35.



⁸Thomas R. Garth and Electa Penina Perter, "The Color Preferences of 1032 Young Children," The American Journal of Psychology, XLVI (July, 1934), 448-51.

⁹A. V. Gale, Children's Preferences for Colors, Color Combinations, and Color Arrangement (Chicago: University of Chicago Press, 1933), as reported in <u>Psychological Abstracts</u>, VII (October, 1933), 584.

students they preferred red and blue with yellow dropping in popularity. (3) the different racial groups also preferred red and blue; the race difference seemed to have little effect on color preferences. 11

W. A. Woods, a psychologist, studied 2,076 people in an attempt to prove that responses to different color combinations varied according to age, intelligence and sex. Mr. Woods proved his hypothesis and concluded that the people with the more primitive behaviors were attracted to color combinations which displayed variety, intensity, and centrast, and that those persons tested, who were more socially oriented and developed, preferred subtle relationships in colors. 12

Using a different approach, J. P. Guilford, an optician from the University of Southern California, believed that there was a system in color preference and that it showed in the communality of choices. Guilford asserted that biological factors caused color preference differences and not cultural factors. 13

P. R. Farnsworth and T. L. Chichiziela, a team of American psychologists, ran a color test in terms of sigma

¹³J. P. Guilford, "There is System in Color Preference,"

Journal of the Optical Society of America and Review of Scientific

Instruments, XXX (1940), as reported in <u>Psychological Abstracts</u>,

XV (1941), 68.



¹¹Ruth Staples, "Color Vision and Color Preference in Infancy and Childhood," The Psychological Bulletin, XXVIII (April, 1931), 297-308.

¹²W. A. Woods, "Some Determinants of Attitudes Toward Colors in Combinations," <u>Perceptual and Motor Skills</u>, VI (1956), 376.

units on 125 school boys. The results showed that the boys preferred red, purple and blue. 14

J. P. Guilferd of the University of Southern California and Patricia C. Smith of Cornell tested forty students with 316 color specimens. They wanted to, and did, prove that there was a consistency of preference within and across the sexes. They kept the qualities of brightness and saturation constant, and the results showed that the students preferred most the blue to green region of color and preferred least the yellow to green region of color. 15

one of the classic studies done in the psychological area of color preference was done by Thomaschewski, a Polish psychologist. Thomaschewski wanted to show the relation of color preference to such qualities as social adjustment, mental capacity, special abilities, temperament and initiative. In his study, Thomaschewski experimented with over 700 school children between the ages of four and sixteen. He showed them twenty-five colors and required them to pick from the twenty-five the five they most liked and the three they disliked. He also retested them after three months. Through careful study of the children and their preferences, Thomaschewski created categories relating colors and character



¹⁴P. R. Farnsworth and T. L. Chichiziola, "Color Preferences in Terms of Sigma Units," The American Journal of Psychology, XLIII (October, 1931), 631.

^{151.} P. Guilford and Patricia C. Smith, "A System of Color Preference," The American Journal of Psychology, LXXII (December, 1959), 487-502.

traits. The results were drawn up as follows:

blue, black, violet . · . calmness orange and red . . sociability white seriousness black present depression . erotic tendencies dark g**ree**n . reserve light blue in younger children . . . nervousness green and violet . . . sensitivity red tones always chosen feeble-mindedness or abnormality strong red health, vi or, jeyousnes

He also concluded that the harmony between the five preferred colors selected as significant. Sharp distinctions between colors showed clear thinking and uprightness, and the order of dark and light colors indicated a masculine or feminine tendency. 16

A Frenchman, J. Subes, studied children's color preferences and concluded that children preferred pictures with vivid contrasts and bright-colored objects, but that this preference declined with age. With age, the trend of individual differences became more important and the difference of sex diminished, 17

Feige-Seiffert, a German psychologist, tested first graders. They were given a choice of colors which remained the same in order to test for brightness, dullness and



¹⁶E. Themaschewski, "Die Farbe in der Experimentellen Charakterforschung," Zertschrift fur Judendkunde, V (1935), as reported in Psychological Abstracts, X (September, 1936), 479.

¹⁷J. Subes, "Des Gouts des Enfants pour les couleurs," Enfance (March-April, 1959, Number 2), as reported in <u>Psychological Abstracts</u>, XXXIV (June, 1960), 408.

darkness. In the testing, the girls showed much more decided preferences than the boys. When the children were asked to combine colors, they chose contrasting colors of darkness and brightness. In this area the boys showed more variety in their combinations that did the girls. This researcher believed firmly that chi dism's color preferences were much less primitive than was no mally to bught, and closer to adults' tastes than was usually as and b people. 18

G. W. Granger, of the Institute of Forchiatry at the Maudsley Hospital of London, England, drised a mathematical formula by which he tested people on color preference and predicted their responses. He ran many tests using this formula, and succeeded surprisingly well with it. 19

L. E. Khozak, a Russian psychologist, attempted to change the reactions to color of twelve children. They were asked to choose paper circles of their favorite colors; then their responses began to be conditioned by flashing lights, in kaleidoscopic fashion. By conditioned reactions caused by flashing lights of the colors they liked the least when they said their favorite colors, Khozak was able to reverse the preferences of four of the children. In another experiment with fifteen children, he revised the conditioning by



¹⁸G. Feige-Seiffert, "Tarbkenntnis und Tarbverwendung bei Kindern des ersten Grundschuljahres," Zeitshrift fur Padagogische Psychologie und Experimentelle Padagogik, XL (1939), as reported in Psychological Abstracts, XIII (December, 1939), 674.

¹⁹G. W. Granger, "The Prediction of Preference for Color Combinations," <u>Journal of General Psychology</u>, LII (April, 1955), 213-22.

flashing lights of the colors they liked most as they would say the colors they disliked. This time he was able to change ten of the fifteen students' preferences. 20

Another Russian, Kovsharova, tested eight ildren between the ages of seven and nine years old. The were asked to select their color preference by choosing rom trawings, objects and electric lights. Soon their espenses were stimulated by food; the most liked colors were represented by biscuits, whereas the least liked colors were represented by chocolate. This caused the children to reverse their color preferences in the following manner: for seven of the eight children, preferences rose in the least liked colors, in six of the eight children, preferences fell in the most liked colors.21

Dashiell, of the University of North Carelina, ran a time test on color preference to determine whether the amount of time required to make a choice was influenced by the amount of difference between the stimuli. The stimuli for the test were seven colored papers. Nine students took the test three times each. They responded by punching a key so that the time could be recorded accurately. The most preferred color was blue, with yellow and green favored the least.

²¹v. Kovsharova, "Opyt eksperimental 'novo Vozdezstiviya na Roaktziya Vybora i Sviazannyie s Nsyu Vyskazvaniya Rebyonka," Na Putyakh k Izuch Vysshykh Form Neirodin. Reb., (1934), as reported in Psychological Abstracts. IX (March, 1935), 128.



²⁰L. E. Khozak, "Popytka Izmeneniya Vysskazyvanuya Rebyonka Putyon Eksperimental moy Organizatzii Yevo Deyatel Nosti," Na Putyakh k Izuch. Vysshykh Form Mairodin. Reb., (1934), as reported in Psychological Abstracts, IX (March, 1935), 127.

The time choices were the longest in choosing between colors in the middle range of preference, and the shortest in choosing between the extremes of the color spectrum. There was a noted difference between one interval and six intervals along this spectrum. The results proved that time was inversely related to the distance between the stimuli judged. 22

G. W. Granger, of London, did another test on color preference. He required fifty people to rank sixty sets of colors in order of preference. They ranked designs also. Results showed that the preferences were objective because of personal taste and dependency on objective stimuli properties. 23

Another British psychologist, H. J. Eysenck, of the University College of London, tested forty-two university students with ten colored papers and concluded (1) that there was as much agreement between color preferences of people as there was between intelligence tests and that this was connected with aesthetic appreciation, (2) two groups of preferences formed, those who liked saturated colors or those who liked unsaturated colors, (3) that there was a high agreement of preference between the sexes. 24



²²J. F. Dashiell, "Affective Value-Distances as a Determinant of Esthetic Judgement Equal Times," The American Journal of Psychology, L (November, 1937), 57-67.

²³G. W. Granger, "An Experimental Study of Colour Preferences," <u>Journal of General Psychology</u>, LII (June, 1955), 3-20.

²⁴H. J. Eysenck, "A Critical and Experimental Study of Colour Preferences," The American Journal of Psychology, LIV (July, 1941), 385-94.

Three researchers from the University of Nebraska W. E. Walten, R. B. Guilford, and J. P. Guilford, tabula fourteen years of data on the color preferences of college students. The students were tested using paired comparis is. They found that consistently sex differences appeared, and that for both sexes red decreased continuously in value by the began to rise at the end of the fourteen years. They not test another but when individual differences were checked in any given year, the changes by sex were appreximately equal. 25

walten and Staples, research psychologists, studies children together concerning the factor of relating pleasu - able experiences with color preference. Children were shown colors and given toys when certain colors of lights appeared. Then when tested for colors, the colors used in the favorable experiences showed an increase in preferability. The researchers also noticed that the children retained these preferences for five months after the experimenting. 26

Margaret W. St. George, of the University of Denver, conducted research concerning color preferences of college students with training in color theory and practice, and those untrained. She tested 250 of each type and asked them



²⁵W. E. Walton, R. B. Guilford and J. P. Guilford, "Minor Studies from the Psychological Laboratory of the University of Nebraska. VI Color Preferences of 1979 University Students," The American Journal of Psychology, XLV (April, 1933), 322-28.

²⁶Ruth Staples and W. E. Walton, "A Study of Pleasurable Experience as a Factor in Color Preference," Journal of Genetic Psychology, XLIII (September, 1933), 217-23,

to arrange seven colors in the order of preference. The order of preference was blue, green, red. yellow, orange, vielet and white. The difference in sex according to preference was slight and the scales between the trained and untrained students were so similar that Miss St. George concluded that art training played no active part in determining color preference. She found that associations existed between color and emotion, but that an existence of symbolism with the colors was uncommon in preferences. 27

M. Paulson and B. Nielsen, Utah psychologists, believed that most investigations over-simplified color preferences.

Most investigations assumed that if two groups liked red, they liked the same color. Poulson and Nielsen tested 300 college students using differing shades of color. The variance of preference by shades proved that testing results must be stated more specifically if they are to be trusted.²⁸

T. Shikaba, a Japanese psychologist, tested 247 subjects of psychiatric hospitals or juvenile homes. He wished to see how the various disorders would rank six colors as to preference. The ranking of the group as a whole went as follows: blue, red, violet, green, yellow and orange. He noted the similarity of this order to the general order of preference



²⁷ Margaret W. St. George, "Color Preferences of College Students with Reference to Chromatic Pull, Learning, and Association," The American Journal of Psychology, LI (October, 1938), 714-16.

²⁸M. Poulson and B. Nielsen, "Certain Color Preferences of College Students," <u>Utah Academy of Sciences</u>, Arts, and Letters <u>Proceedings</u>, X (1933), 87-8.

of normal children, more than normal adults. As he went through the various disorders individually, this writer noted that the colors red, violet, and blue were almost always found among the top four preferences.²⁹

M. W. Marston, a psychologist, wished to connect primary colors and primary emotions. In his testing he showed that blue showed domination and was well-liked by males, whereas yellow signified submission and was well-liked by females and Chinese people. Green was a pleasurable color and showed compliance, and red aroused emotions and love, and was favored by the males. The women disagreed more often an color preference than did the men. 30

The psychologist, D. P. Rakshit, did an important test showing color preference tendencies of introverts and extreverts. He first tested the subjects using the Neymann-Kohlstedt examination to determine if they were introverts or extreverts, and then he tested them on color preference. The results showed that the extreverts preferred the deeper colors of blue, red and green. The introverts and neutroverts favored orange and violet. 31

³¹D. P. Rakshit, "Colour Preferences of Extraverted and Introverted Individuals," The Indian Journal of Psychology, XXI (1946), as reported in Psychological Abstracts, XXII (October, 1948), 549.



^{29&}lt;sub>T</sub>. Shikaba, "Color Preference of Deranged Persons and Delinquent Boys," The Japanese Journal of Psychology, II, Number 4 (1927), as reported in Psychological Abstracts, II (October, 1928), 609-10.

^{30&}lt;sub>M.</sub> W. Marsten, "Primary Celers and Primary Emetions," Psyche, XXX (1927), as reported in Psychelegical Abstracts, II (October, 1928), 609.

The above mentioned tests and research done in the field of color preferences were explained separately because of the technical information contained in them and because generalizing them would cause many pertinent details to be overlooked. In generalizing them, one could say the fellowing: (1) these tests concerned people of the Caucasian race, (2) people had definite preferences in color although they varied, (3) red and blue were favorite colors, (4) red drapped in preference as age increased, (5) blue gained in preference as age increased and as educational levels rose, (6) colors created definite feelings psychologically and physically, (7) preferences of children and adults were different, with children favoring saturation and brightness, (8) although yellow was one of the first colors seen by infants, it dropped steadily in popularity thereafter, and (9) there was a connection between objects and color associatien.

of the fifteen articles and tests found concerning racial preferences other than these of Caucasians, a great difference was not noted except for the Chinese people. With the other races, blue signified a greater level of intelligence, whereas for the Chinese, white was preferred as the level of education rose. S. K. Chou and H. P. Chen, research psychologists from Shanghai, attempted to explain this difference by the color associations, cultural habits and language differences found among the Chinese. 32 B. Hirohashi,



³²s. K. Cheu and H. P. Chen, "General versus Specific Color Preferences of Chinese Students," <u>Journal of Social Psychology</u>, VI (August, 1935), 290-314.

a Japanese psychelogist, suggested the possibilities of white and its preferability to Chinese females be their love of white dresses, light complexions and powder. 33 The other races included Mexicans, Israelies, aborigines of Garo, Eastern Indians, American Indians, Filipinos, Lebanese, Iranians, Kuwaitis, Puerte Ricans, Negroes, and the Japanese. The only other peculiarities were the overall preferences of American Indians, Filipinos and Mexicans for red. As with the Caucasian groups, the color blue seemed to be related with education levels. Different researchers disagreed whether color preferences were culturally or biologically determined, but apparently most races had approximately the same general preferences.

This resume of the findings in the field shows the relatively few studies done in the area of children and color preference. Only one of these has been done in direct relationship with books. It is hoped that this study will contribute to this rather neglected area of children and the library science field.



³³B. Hirehashi, "Some Experiments on the Beauty of Color," The Japanese Journal of Psychology, I (1926), as reported in Psychological Abstracts, II (October, 1928), 608.

CHAPTER II

THE DESCRIPTION OF THE EXPERIMENT

With permission from the Child Development and Family Relations Department of Brigham Young University, forty-one preschoolers from the Brigham Young University laboratory school were chosen to be tested. This consisted of two classes which totalled twenty-two boys and nineteen girls. Preschoolers were tested because of their limited, if any, reading ability. The children were either the ages of four or five; eleven children were four and thirty children were five years old.

The children were tested individually in a private room to avoid the influence of peers. The testing was all done by this writer, who had visited the children in class previously to the testing day so that the children and the researcher were acquainted. This procedure was suggested by the Child Development and Family Relations Department in hopes that this would make the testing more relaxed.

As the child was led into the room, it was explained to him or her that he was going to be asked questions about colors. The children all agreed that they knew about colors. The child and the researcher would then sit in the testing



room and the test would follow six staps. First, the child was asked eight questions concerning Personal data, and associations with books in various situations. Secondly, the child was asked to name his favorite color. (See Appendix Number One). In the next four steps, he was asked to point to the prettiest book from each of the four groups. Each child took approximately three minutes to complete the questions and tests.

The testing materials were sixty-four books: twenty-four large sized books (twelve inches high by nine inches wide), twenty-four medium sized books (nine inches high by six inches wide), and sixteen small sized books (eight inches high by six inches wide). These were books obtained from the Prevo Public Library. These books were covered with wrapping paper (See Appendix Number Two of color samples), so that all the child could see of the book was its size and color.

red, yellow and blue, and the secondary colors, orange, green and purple, plus brown and black. In all the tests, eight books of the different sizes were represented and the children had the full range of color preference in each test, in each size.

The variance of size was not used to determine size preference, but to make the tests different so that the consistency of color could be checked. The four different tests were arranged differently for the same purpose. In an attempt to test the children on consistency, variance was



pravided in hope they were not made aware of the consistency factor.

The test room was set up in the following manner:

two chairs were arranged so that each child could sit and

talk with the researcher to answer the questionnaire. To

the left of the chairs was a pegboard platform on which were

attached two book shelves. The top row contained eight large

books. These books were placed in the following order: brown,

black, red, yellow, blue, orange, green, purple (See Table

1, page twenty-one). The bottom row of the pegboard shelf

contained eight medium sized books of the eight colors. They

were placed in the following order: orange, green, purple,

brown, black, red, yellow, blue (See Table 2, page twenty-one).

table. The books stood upright with the spine visible to the child, and were supported by book ends. These two tests consisted of twenty-four books each with eight large, eight medium and eight small books. Each size was covered in the eight colors. The first group of twenty-four was stacked in three groups according to the size. The sizes were graduated from large on the left end, to small on the right end. In this test, the colors of books in each size group ran in a consistent order: brown, black, purple, green, orange, blue, yellow, and red. (See Table 3, page twenty-two). The second group of twenty-four contained the three size groups, but were stacked at random both in relation to size and colors. The test books were in the following order: medium brown, small



TABLE 1

ARRANGEMENT OF BOOKS AND COLORS FOR TEST 1

black red yellow

TABLE 2

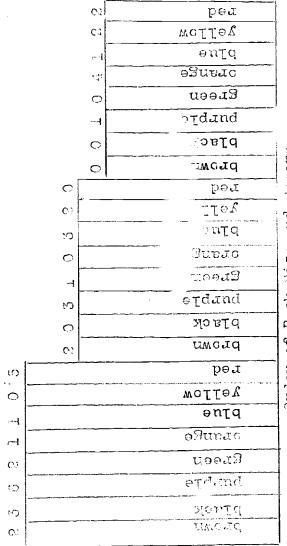
ARRANGEMENT OF BOOKS AND COLORS FOR IEST 2

blue
yellow
red
black
brown
purple
oranga green purple
SPRINGS

3.3LE 3

ARRANGEMENT OF BOOKS AND COLORS FOR TEST'S AND HUMBER OF TIMES CHOSEN

Munder of Times Chosen as Preference



Order of Book Sine and Journa

red, medium purple, small blue, large yellow, small orange, small green, small purple, large red, large black, large orange, medium green, small yellow, large purple, small black, medium orange, large brown, medium yellow, small brown, medium red, medium black, large green, medium blue, and large blue. (See Table 11).

The children were asked the first eight questions on the questionnaire (See Appendix Number One, page 54) to ascertain their background with books. The other questions were directly concerned with the tests themselves. The questionnaire was arranged so that the child's response could be recorded quickly and easily. The last page of the questionnaire was filled out after the testing time because it involved comparing the previous answers. The questionnaires were also constructed so that they could be used with a computer program, the STATOS program (See Appendix Number One, page 54).

After the questions were decided upon, adults were consulted for criticism of the following types: fellow students, professors, and heads of the Child Development and Family Relations Department. These people were asked to read and evaluate the questions asked and the testing procedures used. Two changes were suggested for improvement, (1) the format of the response sheets for easier marking and computerization, and (2) laying some of the test books with the face side out and others with the spine facing outwards. Because of the problems involved in a university situation with obtaining preschoolers, a complete pretest was not possible.



Instead, these adult evaluations and five informal interviews with children were relied upon.

The forty-one nursery school children that were tested provided a good random sampling, if, as Josefina Rodriquez, a psychologist from Madrid, said, color was determined biologically or instinctively and not culturally. 34 As many other tests did, this test concerned children of one geographic area; however, it seemed that from provious research, children in Japan, Madrid and the United States, all preferred certain colors, especially red and blue. These children came from varying some backgrounds and concerned two different ages of children, so it was felt that the two classes of nursery school were quite typical of a normal classroom of children.

A follow-up test was not allowed to this study because of the limited time allowed; as it was, the children were taken away from class. It is hoped that a follow-up study will be done someday, so that the factor of consistency between a first testing and a follow-up test could be checked.

A return of 100 per cent was achieved. Each child answered all of the questions and selected the colors easily. Because of the nature of the study and procedures, the matter of return was never a problem to be considered. As planned, the questions were simplified and the survey sheets never left the hands of the researcher.



³⁴ Josefina Redriquez, "Las Preferencias de Celer en les Nines de Edad Eschelar," Revista de Psicolegia General y Aplicada, V (1950), as reperted in Psychelegical Abstracts, XXV (December, 1951), 799-800.

CHAPTER III

ANALYSIS AND RESULTS OF DATA

The forty-one children were all of the ages four of five, eleven were four and thirty were five. They were divided up fairly evenly according to sex; twenty-two of the children were males, and nineteen were females. reading ability was not tested, fifteen of the forty-one children said that they could read. The extensiveness of this was not checked out, whether only a few words could be read or simple readers. One surprising factor involved with these statistics was that the fifteen children who said they could read were divided up with the same percentage of both in the two age groups, one-third of each age group. disturbing factor to be noticed concerning the children's backgrounds with books was that of the forty-one children, sixteen answered that they had never been to a library; this figure constituted over one-third of the children. Complete statistics are given concerning these personal statistics in Table 4, page twenty-six)..

The children seemed to have little difficulty stating a favorite color. All but four selected a primary color, or secondary color, or brown and black as their favorite. The



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TABLE 4
SILTISTICAL ANALYSIS OF PRESCHOOLERS ACCORDING TO AGE, SEX, AND READING ABILITY

			Y.	uumt	oer of						
			С	hi.	ldre	percentage					
Age 4 .	• 4	٠	٠	•]	Ll.	•	٠	•	26.83		
Age 5.		•	•	. 3	50 ,		•	a	73,17		
Males .	• •	•	•	. 2	22 .	•	•	•	53.66		
Females	• •	•	•	. 1	9.	•	٠	•	46.34		
Readers		•	•	. 1	.5 .		•	•	36.59		
Nonreade	ers	4	•	. 2	26 .		•	•	63.41		
Total .				_ 4	. 7 .				7000		



the presences both numerically and comparatively. The children eferred the nine colors as their favorites in the follower eder: red; purple; pink; blue, yellow, green and black we were preferred by at least half of the group were red and the According to the previous tests conducted with children edermine color preference, the favoritism for red quite normal. The color preference for purple was a bit untial however. It was difficult to obtain yellow and purple paper to cover the books and the quality of color of the purple and yellow differed from the rest of the paper.

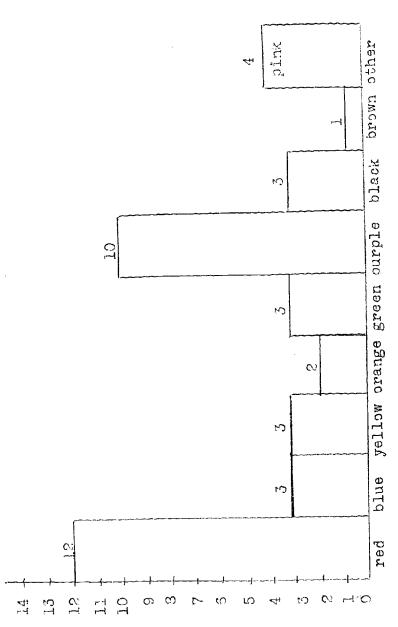
This fact hould be noted. (See Appendix Number Two, page 57).

For test number one, eight large books were set face out on a pegboard shelf. The order of color was brown, black, red, yeller, blue, orange, green, and purple. (See Table 6, page twenty-nine). It should be noticed that the colors were grouped with the mixed colors of brown and black first, the three primary colors next and the three secondary colors last. The order of preference was purple; red; blue and orange tied; yellow and green tied; and no preference for brown or black. In this test the large preference for purple and red was apparent, as it was in the list of favorite colors. A difference was that the preferences were closer together and not quite as varied between all the colors.

Test number two was conducted similarly to test number one coept for two factors, size of the books and order





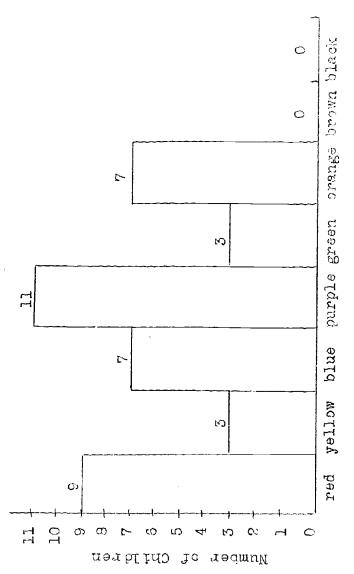


Favorite Color

Mumber of Children

TABLE 6

TEST NUMBER ONE: LARGE BOOK COLOR PREFERENCE



Color Preference

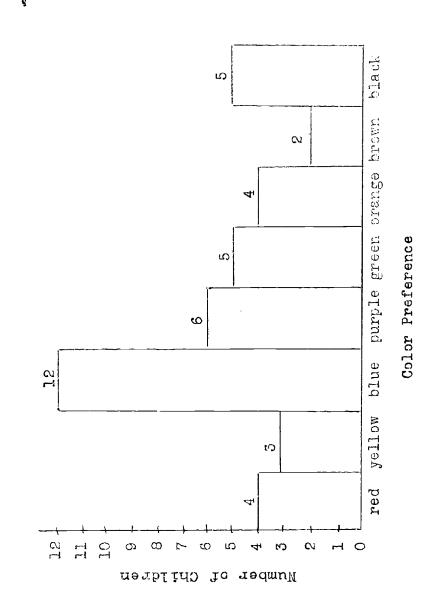
of the colors used. The books were of medium size and the order of books was orange, green, purple, brown, black, red, yellow and blue. (See Table 7, page thirty-one). The order of color groups were the secondary colors first, the mixtures next, and then the primary colors. The children preferred the blue and purple books; the blue rated much higher than the other colors. The interesting point to be compared between test one and test two was that the children's two favorite colors in test one were directly above the favorite colors in test two. (See Tables 1 and 2, page twenty-one). The preferences for books in test one and two ran in a parallel pattern. This factor raised the question of placement and preference, and would have required more extensive testing in this area. It is hoped that this concept will be examined by other researchers.

Test number three involved both size and color, but as mentioned previously, size was only added to test consistency by adding a type of variety. However, the results of size preference were noted just to compare the results with Bamberger's study. As has already been mentioned, Bamberger's study stated that children preferred books seven and one half inches high and five inches wide. The test results of this study showed that the children in both tests preferred the large-sized books which were twelve inches high and nine inches wide. This point was interesting; perhaps the children liked the large books because they noticed them more, just as a tall



³⁵Bamberger, op. cit., p. 9.

TABLE 7
TEST NUMBER TWO: MEDIUM BOOK COLOR PRIFEPENCE





person stands out in a crowd. This fact was mentioned because the children picked the large size more in test number four when the books were stacked randomly according to size than they did in test three when the books were stacked in graduated order according to size. (See Tables 8 and 9, pages thirty—three and thirty—four). Concerning color and test three, the books were stacked in graduated size and color; sequence was repeated identically in each size group. The color order ran the mixed colors, the secondary colors and the primary colors. Colors of purple and red were picked as favorites again. The size factor did not seem to affect this. The order of preference was purple; red; blue and orange; brown and yellow; and green and black. These results are almost a repeat of test number one's results (See Tables 6 and 10, pages twenty—nine and thirty—five).

Test number four's results showed a difference from the other tests. These books were stacked randomly both in size and color sequence. Table 11, page thirty-six, will show the exact size order and color order. The difference in results occured because brown was chosen as the favorite color with blue being the second choice. (See Table 12, page thirty-seven). It should be noted that in tests three and four the most popular colors were chosen most in the large-sized books. Concerning areas most chosen from in tests three and four, test three was chosen by nearly half of the students (twenty) from the left eight books, whereas in test number four, nearly half of the students (nineteen) chose books from the



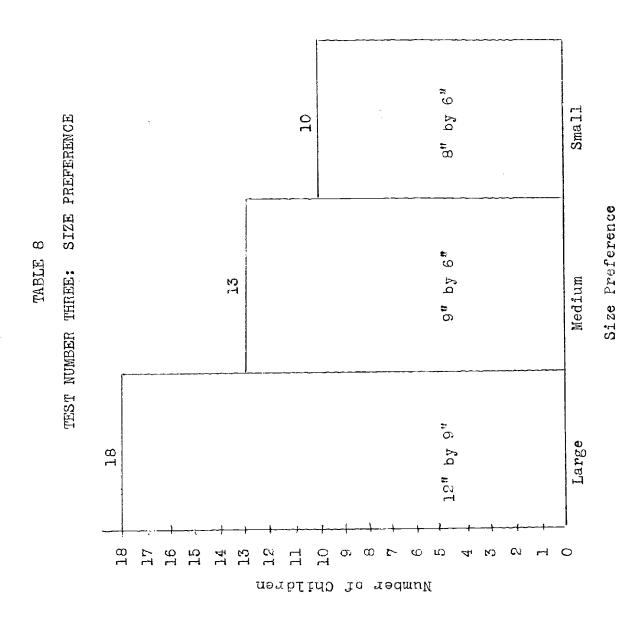


TABLE 9
TEST NUMBER FOUR: SIZE PREFERENCE

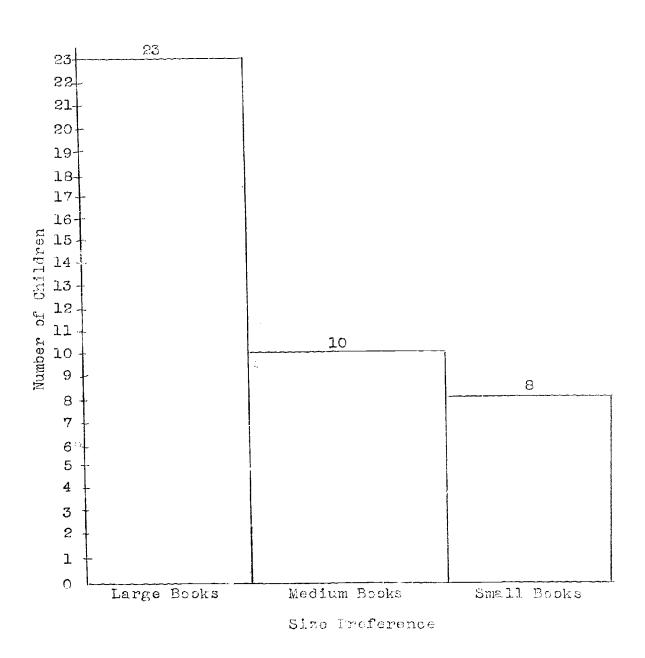






TABLE 10 TEST NUMBER THREE: BOOK COLOR PREFERENCE

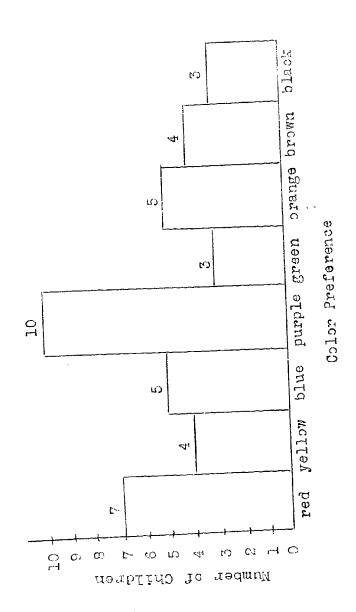




TABLE 11

ARRANGEMENT FOR BOOKS AND COLORS FOR TEST 4
AND NUMBER OF TIMES CHOSEN AS PREFERENCE

Mumber of Times Chosen

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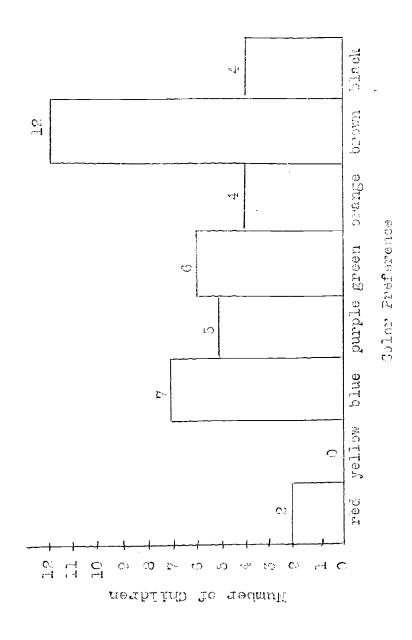
Order of Book Size and Colous

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TABLE 12

TEST NUMBER FOUR: BOOK COLOR PREFERENCE

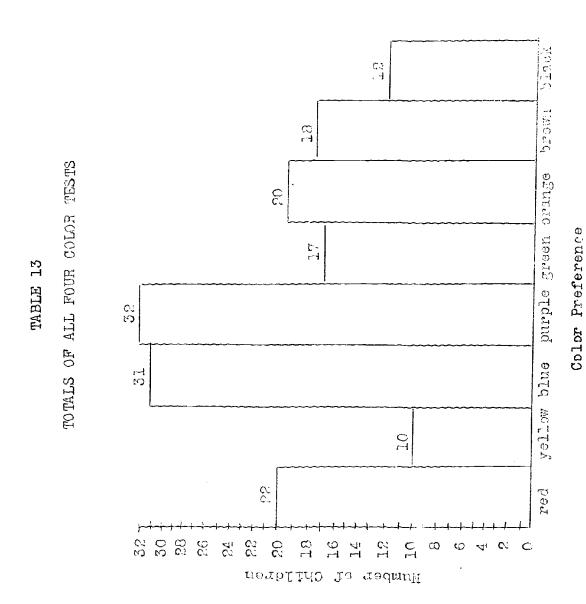


right eight books. It should be mentioned that in the test setting the books were in on the circular table. This meant that both of these areas most chosen from in the two tests were positioned in the center of the table. This differed from the positioning similarity of the first two tests. However, it is interesting that the two pairs of tests set up the most alike, one and two, and three and four, had positioning similarities.

with all the celer choices totalled, the preference order was purple, blue, red, erange, brown, green, black, and yellow. (See Table 13, page thirty-nine). The purple factor which kept appearing as a faverite was puzzling because of its difference from other color preference tests. However, the blue and red preferences were to be expected, as was the dislike of black and yellow. These traits were found in other celer tests done previously. It is interesting to note the similarities of book celer preference and color charts or card preferences. Of the total colors, the most commonly chosen were purple, blue and red. The only surprising changes occurred in test two with its low rating for red, and test four with its hig rating of brown. (See Table 14, page forty).

The levels of consistency were quite low. During the testing it was noticed that a very limited number of children were absolutely consistent, whereas the majority of the preschoolers selected colors very randomly. Table 15, page forty-one, will verify this statistically. The consistency





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TABLE 14

ORDER OF GOLOR PREFERENCES OF FAVORITE COLORS, FOUR TEST SELECTIONS, AND PEST TOTALS

Specific Test

Favorite Colors	(12) red	(10) purple	(4) cther pink	(3) blue	(2) yeiluw	(2) Green	(5) bleck	e9anas	(=)
Test Tumber	(11) purple	(9) red	(7) blue	(7) orange	(3) yellow	(3) green	(0) black	(O) brown	
Test Tunoer	(12) blue	(8)	(5) green	(5) black	(4) red	(4) orange	(4) (3) orange yellow	(2) meze	
Test Tumber 3	e[d.ind]	paz (4)	(5) hlue	(5) (4) orange brown	(4) brown	(4) yellow	(2)	Apetq (2)	
Test Tumber 2	(31)	enld	(e) green	(5) purple	(4) (4) orange black	(4) black	(2) red	(O) yellow	
Test Totals	(32) purple	(31) entd	(22)	(20)	(18) brown	(17) green	(12) black	(10) vellow	

Test order preference and amount preferring



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COLOR CONSISTENCY OF CHILDREN AMONG FOUR TESTS AND COLOR PREFERENCE

Consistencies	SO IN	no
Consistency between Test 1 and 2	3	3 38
Consistency of Tests ' and 2 with favorite color	г -1	650
Consistency between Test 3 and 4	ಬ	36
Consistency between color tests and color a size tests	1	000
Sistement of the state of the s	13	22

seemed to be the lowest between the separate tests. When the tests were grouped together consistency rose. The highest levels of consistency were found to exist between the results of tests one and two with favorite colors, and in the area of size preference. Perhaps the cause of high consistency between test one and two and the child's favorite color was because of the definition used for consistency. If the child selected his favorite color in one of the two tests, he was considered to be consistent. Another factor to be noticed in the area of consistency was that those who chose the more popular colors of the group as their favorite colors, tended to show more consistency in their four tests. Note Table 16, page forty—three, and the high levels of consistency for those favoring purple (75 per cent) and red (50 per cent).

In comparing the color preference of the groups according to sex, it was found that the boys were more consistent than the girls, but not a great deal so. (See Tables 17 and 18, pages forty-four and forty-five). In comparing their total preferences (See Table 19, page forty-six) the following things may be observed: (1) the boys favored blue more than the girls, (2) both sexes ranked blue, red and purple in the first three preferences, (3) the boys and girls switched their preferences for brown and orange, and yellow and black to positions exactly opposite one another. The males' favorite colors and the females' were quite different and the total preferences of the males and females agreed



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SHOWING CONSISTENCY OF FAVORITE COLOR ROJES AND SELECTION OF THAT COLOR AS THEIR MOST PREFERRED IN THE FOUR IESTS

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favorite	6. 5. 1. 4. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5.	consistency in choice of which
C D T D73	19.7.3771.0	0.00
'' ''	(6.7)	50%
blue	(3)	25%
yellow	(3)	25%
orange	(8)	0,7
green	(2)	95%
purple	(07)	75%
black	(3)	0,5
hzevm	2000 211 2000	5,0
अस्ति ((5)	50%

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TABLE 19

TOTAL ORDER OF PREFERENCE AND NUMBER OF TIMES PREFERED

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	(9) Weng
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(CT) (OT)	1
(14) beven	(13) (10)
eīdznā (38)	(13) blue
(80) (80)	(14) red
(31)	(22) (14)
Total Male Preforences	and the Branch College



exactly in only two of the rankings, red and green. These findings seem to point out that sex does make a difference in determining color preference.



CHAPTER IV

SUMMARY AND CONCLUSIONS

The procedures and results of this study may be summarized as follows:

- I. In order to determine book color preference as related to favorite colors, four tests of varying sorts were run, according to certain specifications outlined by the investigator. These specifications involved the elimination or addition of variables in order to secure choices and note consistency. Four tests were conducted, two concerned only the variations in color, and 'wo concerned variations in book size and color. Eight colors of book covers were used: the primary colors of red, yellow and blue, the secondary colors of green, orange and purple, and the mixed colors of brown and black. Three sizes of books were used, small, medium, and large. The children's favorite colors were compared with the colors they preferred in the four tests.
- II. Two classrooms of preschoolers were used who attended the Brigham Young University nursery school. One class contained fifteen students and the other contained twenty-six children, making the total amount of children tested forty-one. The children were of two ages, four or



five. Consideration must be taken for the fact that the sampling was all taken from one geographic area.

make it understandable to each child. One test was run at a time, having the child select a color of book or size and color of a book. The child selected one book from each test, and the results were recorded by the researcher.

IV. This study was concerned with the choices made by these children between the various book celors in relationship to their favorite colors, and how consistent these choices were.

V. A discussion of the situation which interested and challenged the investigator to research this problem was included. Also a summary of the studies which were made by previous researchers and which were related to the present study. Only one study referred directly to books and color preference.

The following conclusions were reached after an analysis of the results of the choices made by the forty-one preschoolers selected for this experiment and based upon their choices of sixty-four books as compared with their statements of favorite colors:

- 1. The difference in choices between colors preferred indicated that the children did have decided preferences.
- 2. The children chose their favorite colors in the following order of preference: red; purple: pink; blue, yellow, green and black; orange and brown.



- 3. These same children chose book colors (in the total of the four tests) in the following order: purple; blue; red; orange; brown; green; black and yellow.
- 4. There was not enough consistency between familie color and book color preference to justify a strong connection between the two. However, one cannot everlook that the colors of purple, blue and red were selected by the majority of the children in both cases. Consistency was greater in the totals than in the results of the individuals.
- 5. These children who selected the most popular colors as their favorite ones, purple, red and pink (pink was considered to be closest to the color purple), showed a much greater consistency between the favorite color and book colors than did these who preferred the lesser liked colors.

In the light of the preferences shown by the particular children taking part in this study, and with the tests used, the following recommendations are made:

- 1. That more testing be done concerning children and book color preference using different variations, other than those of color and size. Perhaps color and tints, one color and two color and other variations could be used so that the children's preferences under different circumstances could be compared.
- 2. A factor which arcse in the study, positioning similarities, would be an interesting one to be researched.

 Do children prefer certain parts of library shelves or particular areas of displays? This area needs experimentation.



- 3. It is suggested that all manufacturers of materials for children, for example, clothing, school materials, toy manufacturers, interior decorators, as well as the book industry, do testing in their fields to be made aware of children's preferences.
- 4. A psychological study should be made concerning how children develop a favorite color. An example of a question to be considered could be whether colors were an idea forced upon he child by his parents. If this is the case, it might have accounted for some of the inconsistencies which existed between favorite colors and book color preferences.

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APPENDIX 1

QUESTIONNAIRE

QUESTIONS

4	what is yeth hame:	
2.	How old are you? 3 4	5 , market - Table 19 (19 (19 (19 (19 (19 (19 (19 (19 (19
3.	Can you read yet? yes no	Reministration of the season o
4.	Does your teacher read to you?	yes no
5.	De your parents read to you? yes	s no
6.	Do you like books? yes no	9
7•	Do you have books of your own at her	me? yes no
8.	Do you ever go to the library?	yes no
9.	What is your favorite color? red	d blue
	yell erange grn	purp blk
	hrn ather (specify)	



Name of child:

Test #1

Large Books:

- 10. Child Selected
- 1) red 2) yellow 3) blue 4) purple 5) green 6) @range 7) brown 8) black

Medium Books:

- 11. Child Selected
- 1) red 2) yellow 3) blue 4) purple 5) green 6) erange 7) brown 8) black

Test #2

- 12. Child chose
- 1) large 2) medium 3) small
- 13. Child chose
- 1) red 2) yellow 3) blue 4) pur 5) green 6) orange 7) brown 8) black

Stacked randomly

- 14. Child chose
- ____ 1) large 2) medium 3) small
- 15. Child chose
- 1) red 2) yellow 3) blue 4) purple 5) green 6) grange 7) brown 8) black
- 16. Child's favorite calor
- 1) red 2) yellow 3) blue 4) purple 5) green 6) orange 7) brown 8) black



Name of child:

Checklist

17.	Sex of the child
	1) male 2) female
	Test #1
18.	Was the child consistent in the color he preferred between part 1 and part 2?
Drumenthed ac	1) yes 2) no
19.	Was this consistent with his favorite color?
Petroponophop	1) yes 2) no
	Test #2
20.	Was the child consistent in the color he chose between choice 1 and 2 in part 2?
	1) yes 2) no
21.	Was the child consistent in the color he chose between Test 1 and Test 2?
	1) yes 2) ne
22.	Was this consistent with his favorite color?
	1) yes 2) ne
23.	Was the child consistent in the size he chose between part 1 and part 2?
	1) was 2) na



APPENDIX II



The following are samples of book covers used in the testing.

ABSTRACT

This study attempted to discover the relationship of children's favorite colors and book color preference.

Tests were conducted on two classes of nursery school children of the Brigham Young University nursery school.

These two classes consisted of forty-one four and five year old children; 100 per cent return was received.

Findings did not indicate enough consistency on the individual basis to prove the hypothesis that children transferred favorite color preferences to book color preferences, when color was emphasized.



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